

Joint Satellite Communications

Joint Satellite Communications

Objectives of the Joint Satellite Communications System

BACKGROUND AND DESCRIPTION: The system supports the needs of

video

other designated users. The system will serve these needs by providing:

two ground stations, one VHF and one within the UHF波段, process and transmit satellite mission data. The Joint Chiefs of Staff have designated US, Canadian organizations as users of DSC data: Continental Air Defense Command (CADC), Aerospace Defense Command (ADC), Strategic Air Command (SAC), National Military Command Center (NMCC), Atlantic Command (ACM), Pacific Command (PACOM), European Command (EUCOM).

Planned system improvements are intended to prolong the useful life of the satellite, make the satellite more survivable

increase the probability data will be available

RELATED ACTIVITIES:

The Defense Satellite Communications System, Phase II (DSCS-II, 33110F) will provide an alternative communications route. Advanced Airborne Command Post (AARNCOP, 64723F) is a potential user of this program's data. DSCS is a key element of the Worldwide Military Command and Control System (WWMCNS) and is related to the other elements of the WWMCNS.

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Journal of Clinical Endocrinology and Metabolism

The Aerospace Corporation, Englewood, CO, provided General Dynamics Engineering/Technical Program support to the RIF System Program Office.

PROGRAM ACCOMPLISHMENTS AND FUTURE PROGRAMS:

1. FY 1973 and Prior Accomplishments: The program has provided for procurement of 12 satellites and 11,431 IIRC boosters, construction of two data processing facilities (DODCOM and COMUS), user display equipment, software, communication equipment, and a training facility. The training facility is also used for software development and mission data analysis.

Future launches will be conducted to replenish

Project Activity (fy 74) Planning - FY 74 and FY 75 Propos

Element 4. Funding - FY 74 and FY 75 Propos

— Interfaced Satellite: Initial funding will be provided to initiate the Overage Segment of the DSS, which will be used to test different types of Defense Satellite Command and Control (DSCC) systems. This provides alternate communications paths.

• Flight Program: Experimental flight support equipment is provided to support the satellite program. Funding is provided to fully enable the satellite to enable it to receive the satellite's output power. Therefore, enabling of data to be received by another, technically advanced, computer, the satellite's compatibility; further, funding is provided to analyze and evaluate the satellite data; to continue development of DSS Augmentation; to provide satellite circuit and test equipment; to procure satellite tracking and training equipment; to provide support for software development; to complete ground station hardware, and make necessary shielding repairs; to begin fabrication of an initial small producing station; and to procure an IBM 360/75 computer used in software development and augmentation.

3. FY 75 Planned Program: The planned FY 75 program includes continuation of the initial development of experimental modification

— to continue to analyze and evaluate collected satellite data,

and to provide continued support for Augmentation. Antennae funding is provided to begin development of software to be used with small producing stations, and to continue fabrication of a small producing station started during FY 74.

4. Program to Completion: DSSA funding will support continued evolutionary development of the satellite system in support of DSS requirements. Primary emphasis will be directed toward elimination or minimization of deficiencies discovered during operational deployment.

Project Activity #4 - Military Communication and Weather Satellite

Procurement # 10011 - FY 1970-79 Estimated Total Cost

a. Procurement:

| | <u>Date</u> | <u>Estimated Completion Date</u> | <u>Cost to Reach Maturity</u> |
|----|-------------|----------------------------------|-------------------------------|
| a. | | | \$347.4 |
| b. | | | 375.3 |
| c. | | | 382.1 |
| d. | | | 392.0 |
| e. | | | 397.2 |
| f. | | | 405.8 |
| g. | | | 445.0 |
| h. | | | 456.2 |
| i. | | | 471.8 |

Additional: \$ in Millions

| | <u>FY 73 and Prior</u> | <u>FY 1974</u> | <u>FY 1975</u> | <u>FY 75-79</u> | <u>Total* Estimated Cost</u> |
|---------------------|----------------------------|----------------|----------------|-----------------|--------------------------------------|
| REF ID: Funds | 716.3 | 72.1 | 33.7 | 33.8 | 530.0 |
| Quantities | | | | | |
| Satellites/Prostera | 4/1 | 2 | 0 | 0 | 4/1 |
| Procurement: | | | | | |
| Funds (3020, 3030)* | 616.0 | 23.1 | 31.7 | 477.8 | 1,203.6 |
| Quantities | | | | | |
| Satellites/Prostera | 8/11 | 0/0 | 1/0 | 5/6 | 14/17 |

* Excludes space funded in Other Procurement, Air Force.

** Through FY 70

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FY 1975 RDT&E DESCRIPTIVE SUMMARY

Program Element # [?]43[?]F

Title Defense Support Program

Catagory Strategic Forces

Budget Activity #4 - Military Astronautics
and Related Equipment

BACKGROUND AND DESCRIPTION:

[Excised]

[Excised]

provides [Excised]

[Excised] to our national command authorities and other designated users. The system also serves these more specific purposes:

[Excised]

Two ground stations, one overseas and one within the CONUS receive, process and transmit satellite mission data. The Joint Chiefs of Staff have designated the following organizations as users of DSP data: Continental Air Defense Command (CONAD), Aerospace Defense Command (ADC), Strategic Air Command (SAC), National Military Command Center (NMCC), Atlantic Command (LANTCOM), Pacific Command (PACOM), European Command (EURCOM), [Excised]

[Excised]

Planned system improvements are intended to improve the useful life of each satellite, make the satellite more survivable [Excised] increase the probability [Excised] data will be available [Excised]

RELATED ACTIVITIES:

System, Phase II (DSCS-II, 33110F) will provide an alternative communications route. Advanced Airborne Command Post (AABNCP, 64723F) is a potential user of this program's data. DSP is a key element of the Worldwide Military Command and Control System (WWMCCS) and is related to the other elements of the WWMCCS.

[Excised]

Project Activity #4 - Military Astronautics and Related Equipment

Program Element # [?]431F

Title Defense Support Program

WORK PERFORMED BY: CINCONAD has been designated to maintain operational control of the DSP system. [???]ation and technical management are the responsibility of the USAF Aerospace Defense Command (ADC). The Air Force Logistics Command (AFLC) provides logistic support. The Space and Missile System Organization (SAMSO) of the Air Force Systems Command (AFSC), Los Angeles, CA, has the overall development and procurement management and responsibility for the DSP. TRW, Redondo Beach, CA, is the prime contractor for the space[Excised] sensor. Western Development Laboratories/Philco Ford, Palo Alto, CA, is the prime contractor for the User Display Segment and the Data Acquisition and Communications Segment. Aerojet Electrosystems and IBM, Westlake, CA, are responsible for the system's software development. System Development Corporation, Santa Monica, CA, is responsible for software configuration management and integration. The Martin Company, Denver, CO, is responsible for the TITAN IIIC booster and Eastern Test Range (ETR) launch support. The Atomic Energy Commission (Sandia Corporation) is responsible for [Excised]

The Aerospace Corporation, Englewood, CA, provides General Systems Engineering/Technical Direction support to the DSP System Program Office.

PROGRAM ACCOMPLISHMENTS AND FUTURE PROGRAMS:

1. FY 1973 AND PRIOR ACCOMPLISHMENTS: The program has provided for procurement of 12 satellites and TITAN IIIC boosters, construction of two data processing facilities (overseas and CONUS), user display equipment, software, communications equipment, and a training facility. The training facility is also used for software development and mission data analysis.

[Excised]

Future launches will be conducted to replenish

Budget Activity #4 - Military Astronautics and Related Equipment

Program Element # [?]43[?]F TITLE Defense Support Program

[Excised] satellites currently deployed when operationally required. An [?]SC-46 communications terminal has been installed at the Overseas Ground Station (OGS) which will enable DSP data to be transmitted to the CONUS via Defense Satellite Communications System Phase II (DSCS-II) communications satellite, thus providing an alternate communications mode [Excised]

2. FY 1974 Program: Expenditures will support completion of modifications necessary [Excised] to prepare the satellite for possible universal (i.e., any orbit) deployment. Funding is provided to modify the satellite to enable it [Excised] to increase the satellite's output power, thereby enabling DSP data to be received by smaller, less costly antennae; to increase the satellite's on-orbit reliability; [Excised] Further, funding is provided to analyze and evaluate collected satellite data; [Excised] to continue support of DSP Augmentation; to provide automatic circuit card test equipment; to procure satellite tracking set (STS) training equipment; to provide support for software development; to complete ground station shielding tests and make necessary shielding repairs; to begin fabrication of an initial small processing station (SPS); and to procure an IBM 360/75 computer used in software development and modification.

3. FY 1975 Planned Program: The planned FY 75 program includes expenditures for initial development of an operational modification [Excised] [Excised] to continue to analyze and evaluate collected satellite data, [Excised]

[Excised]

and to provide continued support of DSP Augmentation. Additional funding is provided to begin development of software to begin new processing stations, and to continue fabrication of a small processing station started during FY 74.

4. Program to Completion: RDT&E funding will support continued revolutionary development of the satellite system in support of DOD requirements. Primary emphasis will be directed toward eliminating or minimizing deficiencies discovered during operational employment.

Budget Activity #4 - Military Astronautics and Related Equipment

Program Element # [?]43[?]F Title Defense Support Program

5. Milestones: